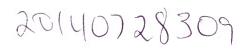
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Advanced Rotor Blade Materials Evaluation

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Prepared for:

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INTRODUCTION

This report is to meet the reporting requirements of the ONR Project "Helicopter Rotor Blade Erosion Resistance Evaluation" that was concluded in 2013. This project was a follow on to a previous ONR Program to evaluate helicopter rotor blade erosion resistant treatments that had been supplied in response to a US Navy BAA Program. The Navy Program was meant to improve the lifetime, time between maintenance, and survivability of US Navy helicopter rotor blades.

ACTIVITY REPORT

The work that was proposed for this project was to continue to measure the erosion resistance of various helicopter rotor blade treatments supplied by the US Navy to the testing location. Several tasks were initiated and completed during the early part of this project in anticipation of the receipt of a large number of test specimens to evaluate. The test specimens were never supplied for evaluation so the only work that was performed was the task of setting up the laboratory facility, performing the standard lab routines needed to ensure quality data collection, and training of technicians in the handling and evaluation of the test specimens. This program did not receive any incremental funding past the amount used to set up the testing described above.

CONCLUSIONS

The evaluation of wear resistant treatments on the leading edges of helicopter rotor blades was not a standard procedure at the time of the award for the first phase of specimen testing from which this program evolved. Mil Spec 3033 was produced for the evaluation of helicopter rotor blades after the earlier ONR BAA Program had been concluded and while this specific program was active. This program was one of the drivers behind the need to establish a standard testing method. The understanding developed during the earlier testing program allowed some testing formalism to be established and incorporated into the new Mil Spec.